

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-27 (Cancelled)

28. (Currently Amended) ~~Use of A method of an 11- $\beta$ -HSD type 1 and/or type 2 inhibitor or a pharmaceutically acceptable salt thereof, for the manufacture of a pharmaceutical agent for the prevention and/or treatment of inflammation-induced and/or immune-mediated loss of bone and/or cartilage in a patient in need thereof, wherein said use is for the prevention and/or treatment of osteoporosis, postmenopausal osteoporosis, arthritis, juvenile chronic arthritis and/or adjuvant arthritis, infectious diseases, bone loss by HIV, tooth loss, bone marrow inflammation, synovial inflammation, cartilage and/or bone erosion and/or proteoglycan damage comprising the step of administering to said patient the pharmaceutical composition of~~  
claim 45.

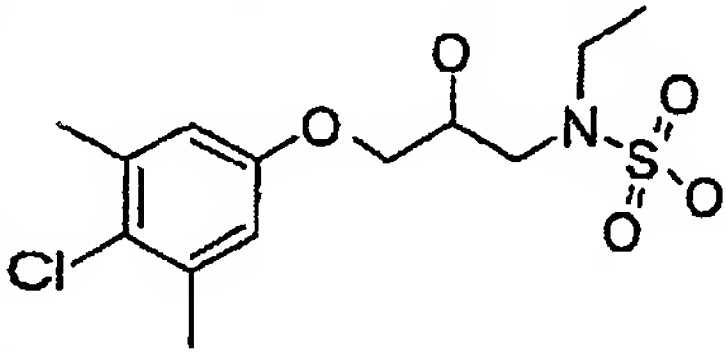
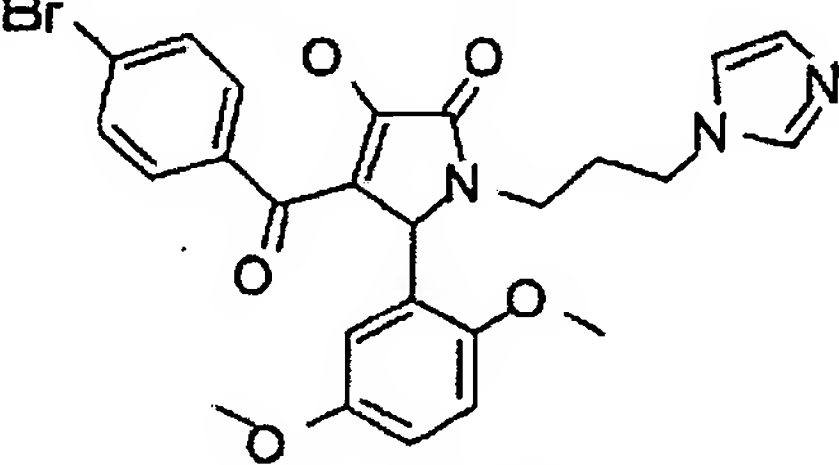
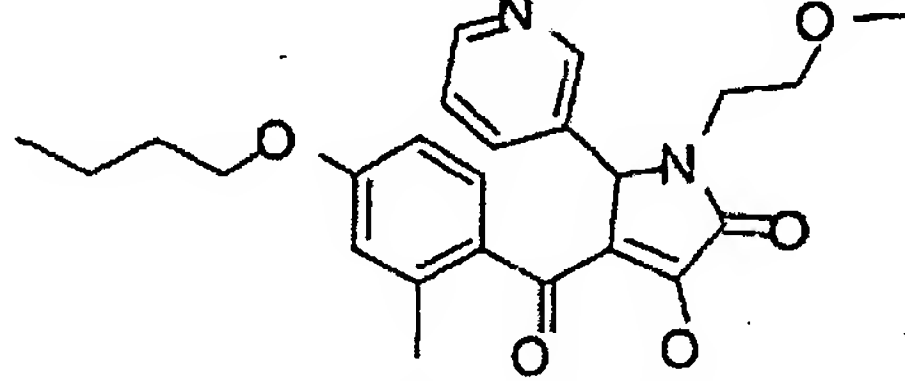
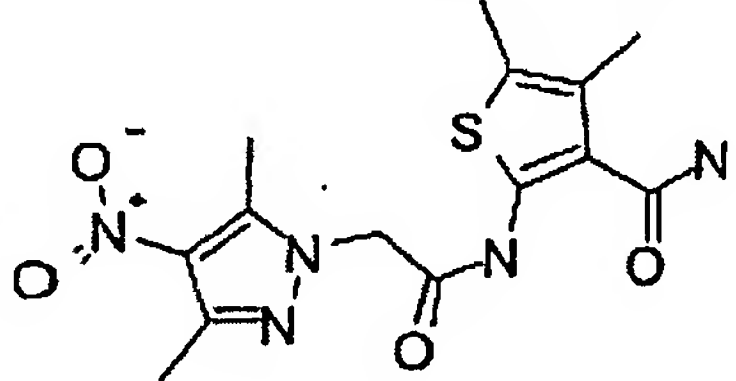
29. (Currently Amended) ~~The use according to method of claim 28, wherein said patient is for the prevention and/or treatment of inflammation-induced and/or immune-mediated loss of bone and/or cartilage in a mammal.~~

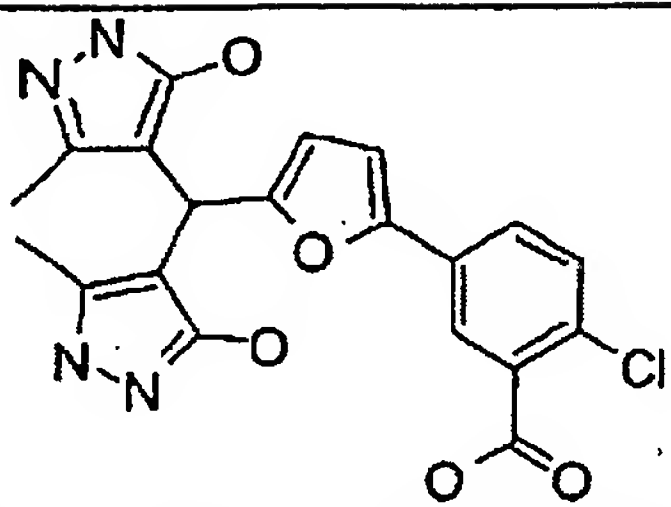
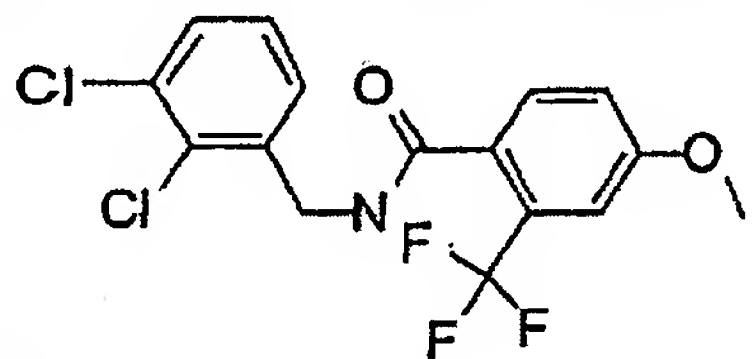
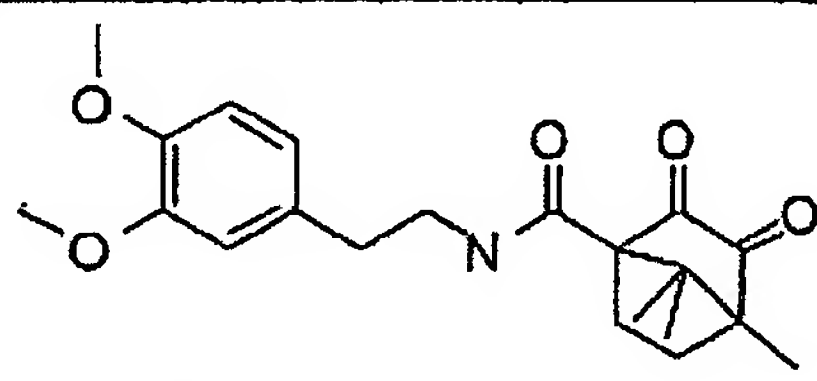
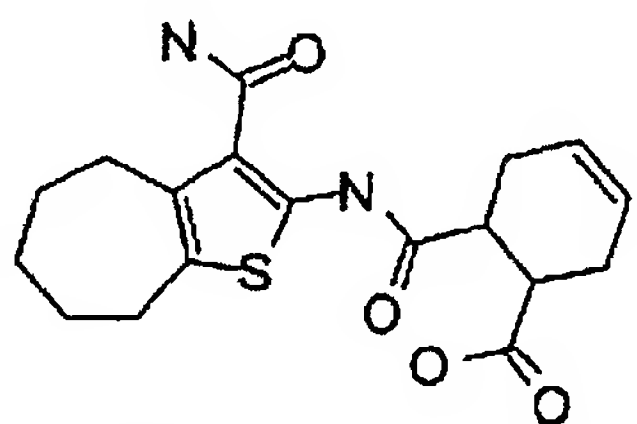
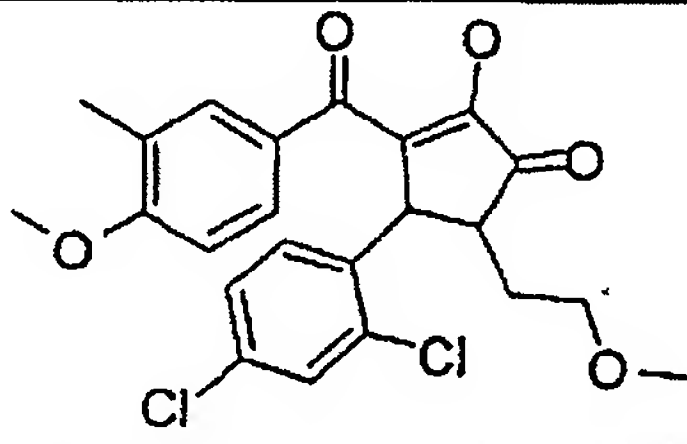
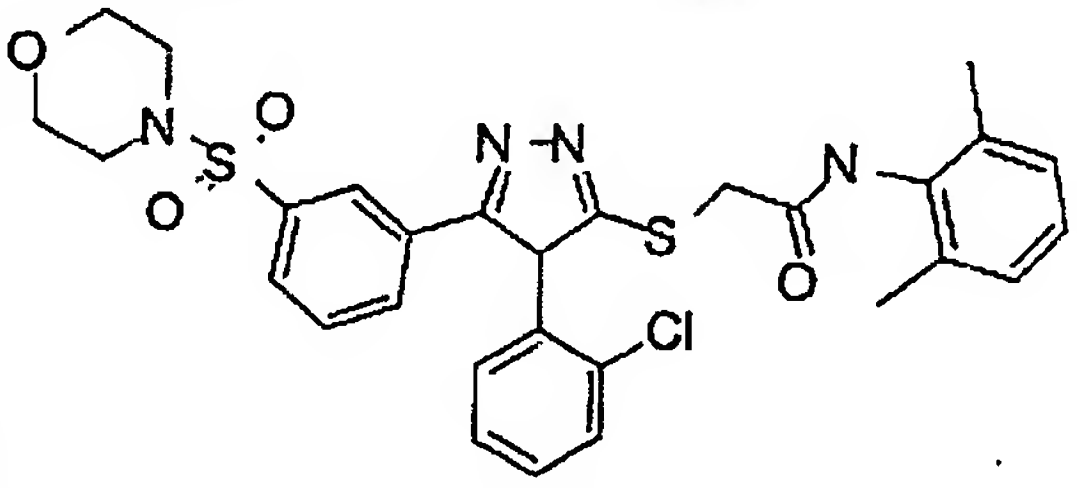
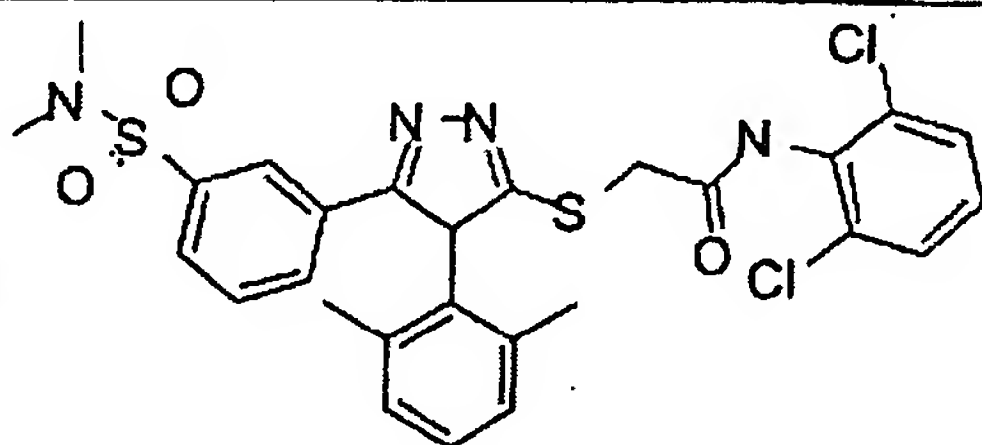
30. (Currently Amended) ~~The use according to method of claim 29, wherein the mammal is a human.~~

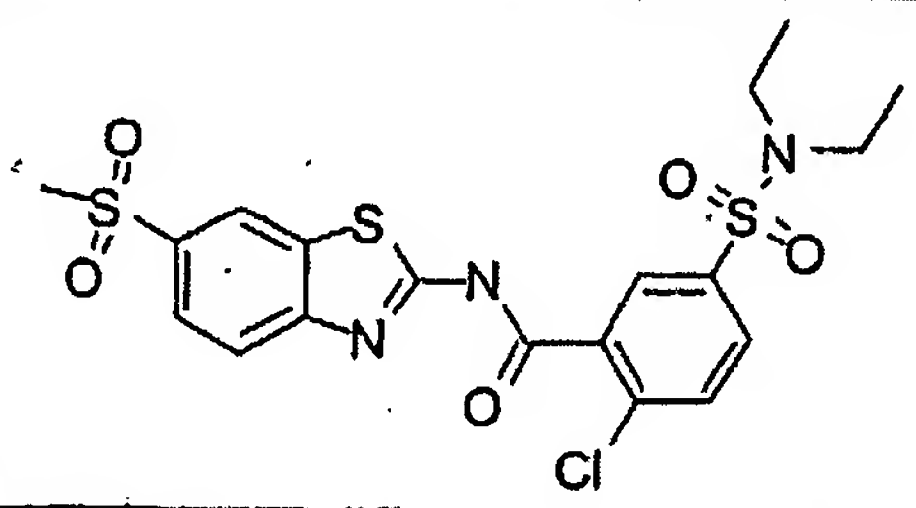
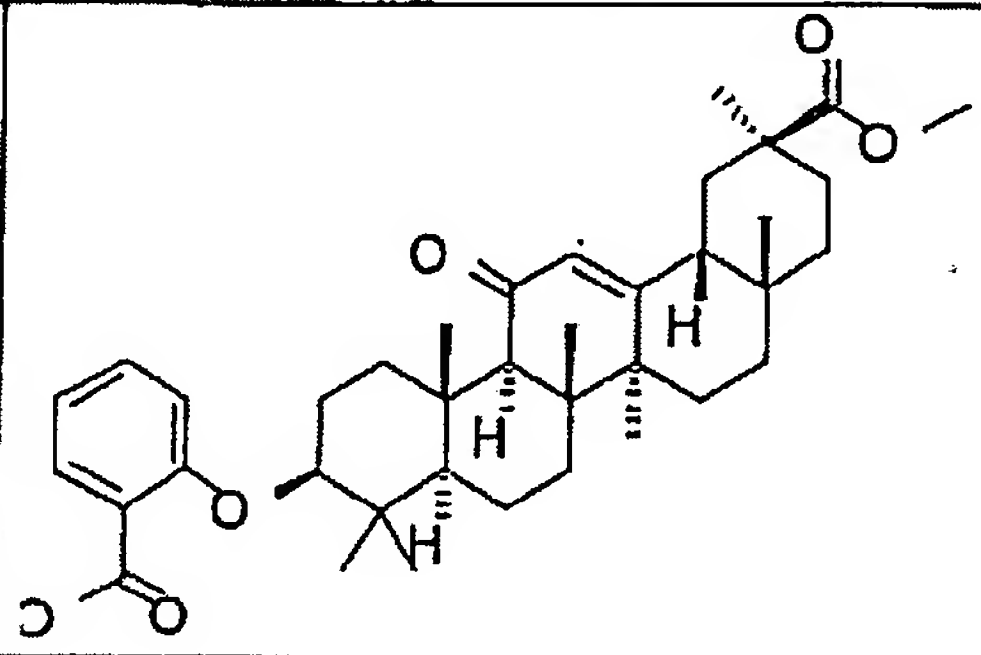
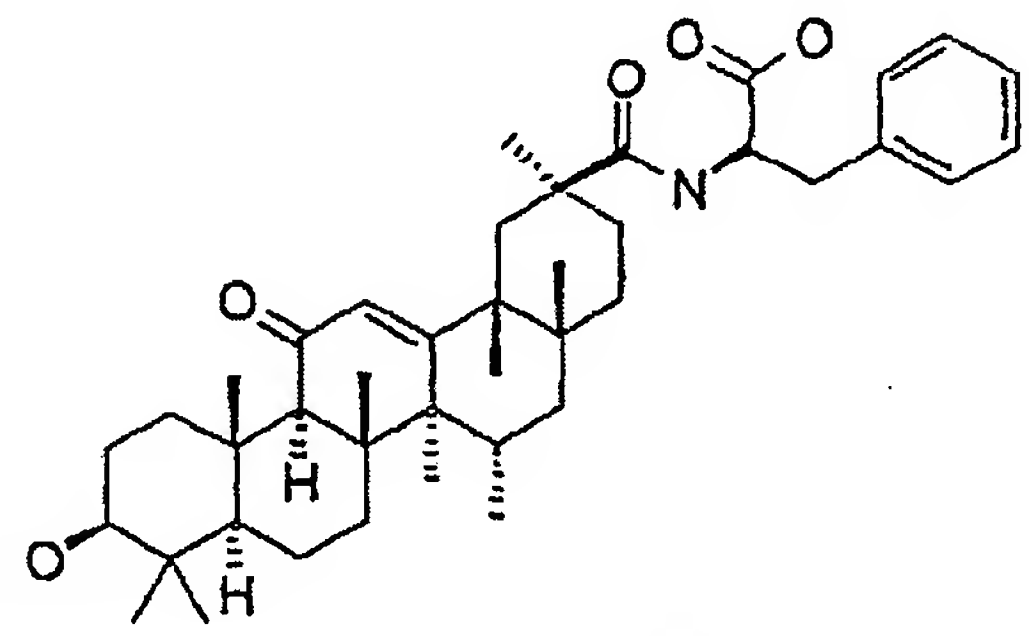
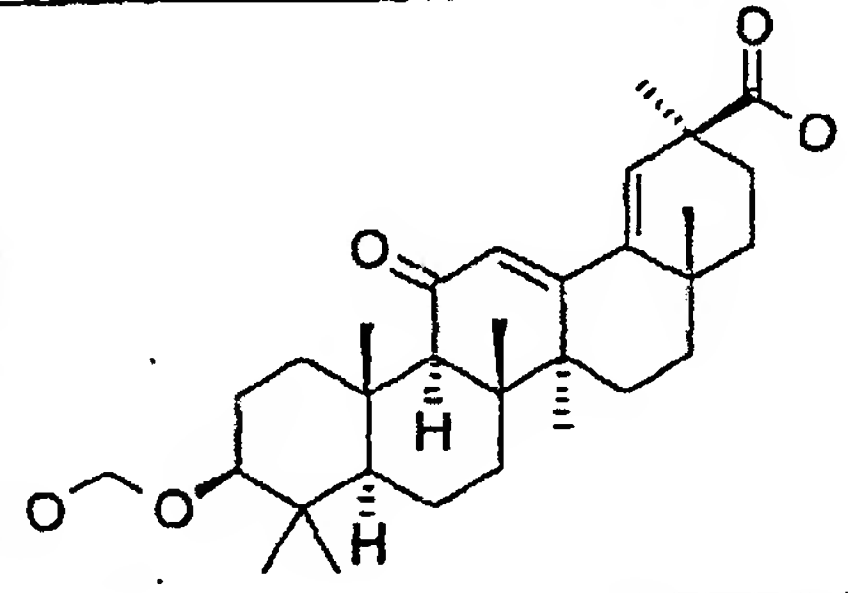
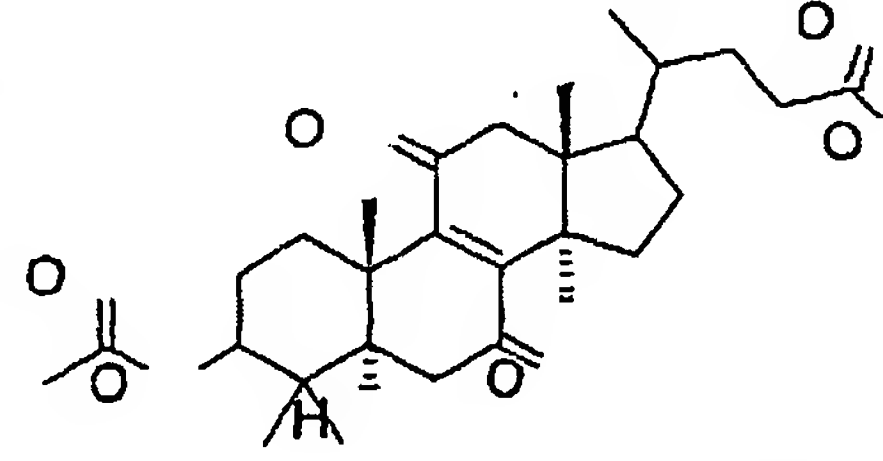
31. (Currently Amended) The ~~use according to~~ method of claim 28, wherein said ~~use~~ is ~~for the prevention~~ and/or ~~treatment of~~ inflammation-induced and/or immune-mediated loss of bone and/or cartilage is caused by at least one disease selected from periodontitis, osteoporosis, postmenopausal osteoporosis, arthritis, infectious diseases, bone loss by HIV, tooth loss, bone marrow inflammation, synovial inflammation, cartilage and/or bone erosion, or proteoglycan damage, and wherein said at least one disease is treated by said administration and/or arthritis selected from the group consisting of osteoarthritis and/or rheumatoid arthritis.

32. (Currently Amended) The ~~use according to claim 28~~ pharmaceutical composition of claim 45, wherein the 11- $\beta$ -HSD-type 1 and/or type 2 inhibitor is ~~18-p-glycyrrhetic acid~~ 18- $\beta$ -glycyrrhetic acid.

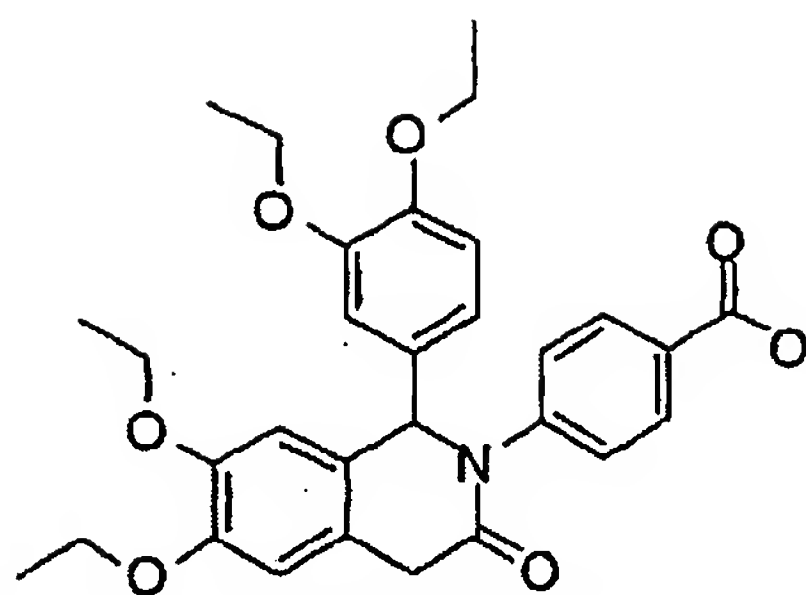
33. (Currently Amended) The ~~use according to claim 28~~ pharmaceutical composition of claim 45, wherein the 11- $\beta$ -HSD-type 1 and/or type 2 inhibitor is selected from the group consisting of the following formulas:

Compound Name	Structure
Formula 1	 <chem>CC1=CC=C(C=C1C)C(Cl)=C1COC(=O)CCN(C)S(=O)(=O)C</chem>
Formula 2	 <chem>COc1ccc(OC)c(c1)C2=C(C(=O)C3=CC=C(C=C3)Br)N(C2)CCCN4C=CC=CC=N4</chem>
Formula 3	 <chem>COCCN1C(=O)C2=C(C(=O)C3=CC=C(C=C3)C(=C2)C(=C1)C(=C4C=CC(=CC=C4)OCC)C5=CC=CC=N5)C6=CC=CC=C6C7=CC=CC=C7</chem>
Formula 4	 <chem>CC1=C(C(=C(C=C1)N2C(=CC(=C2)[N+]([O-])=O)N3C(=CC(=C3)S)C(=O)N)C(=O)N4C(=CC(=C4)S)C(=O)N</chem>

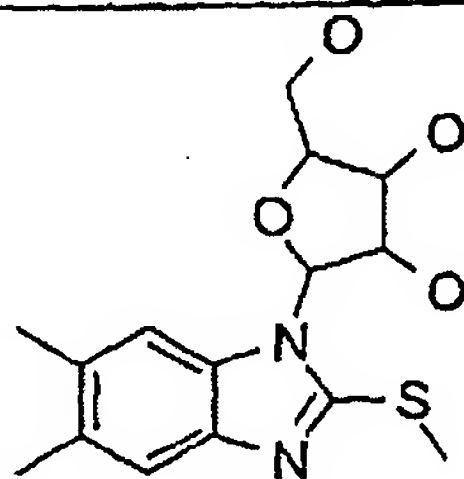
Formula 5	
Formula 6	
Formula 7	
Formula 8	
Formula 9	
Formula 10	
Formula 11	

Formula 12	
Formula 13	
Formula 14	
Formula 15	
Formula 16	

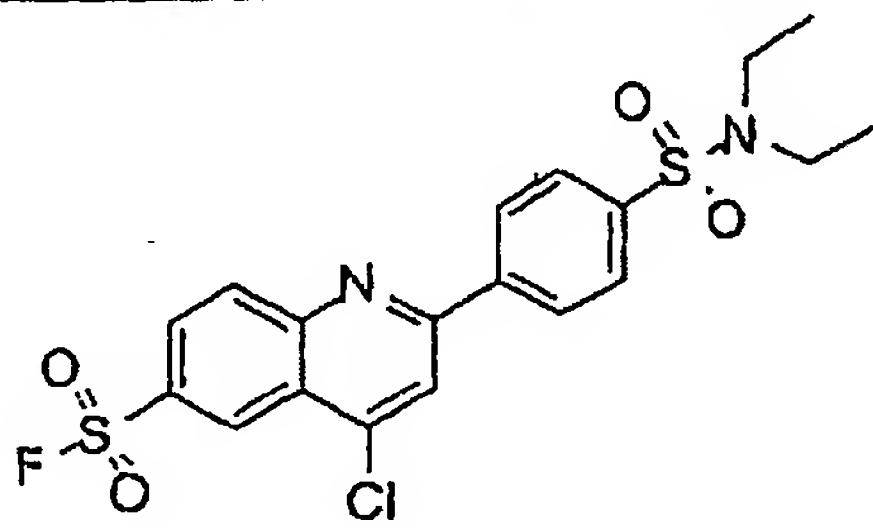
Formula 17



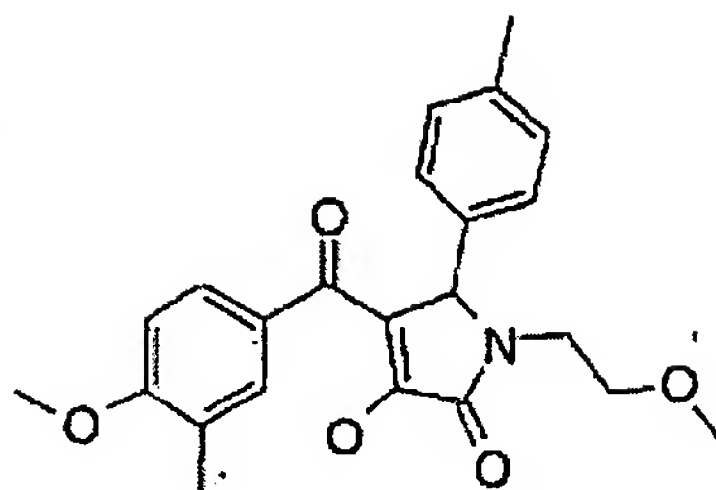
Formula 18



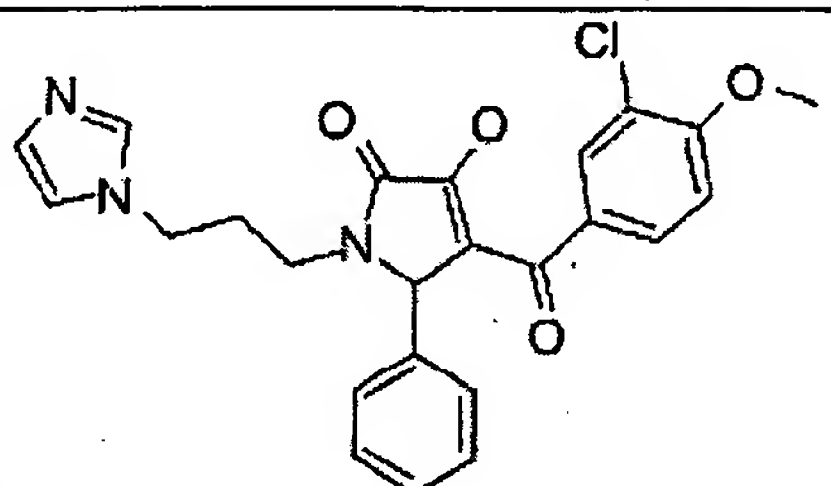
Formula 19



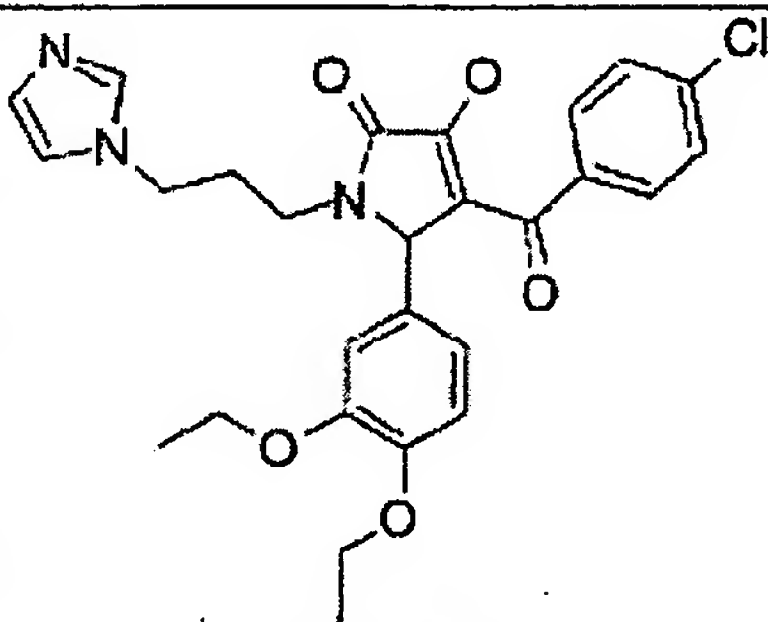
Formula 20

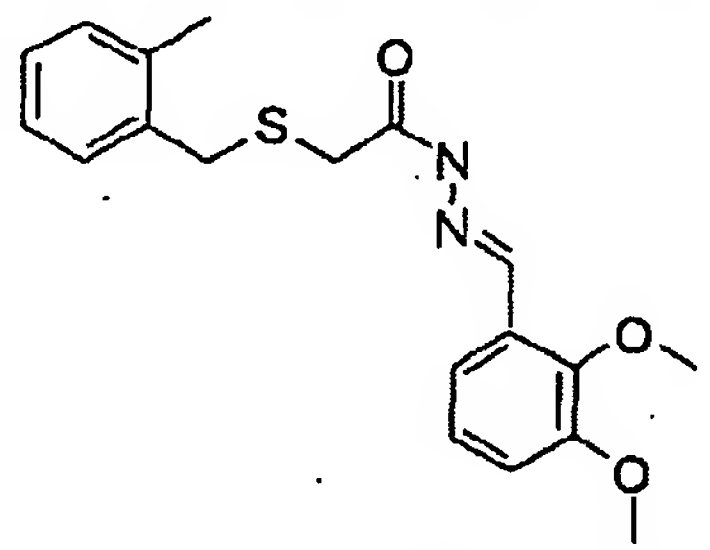
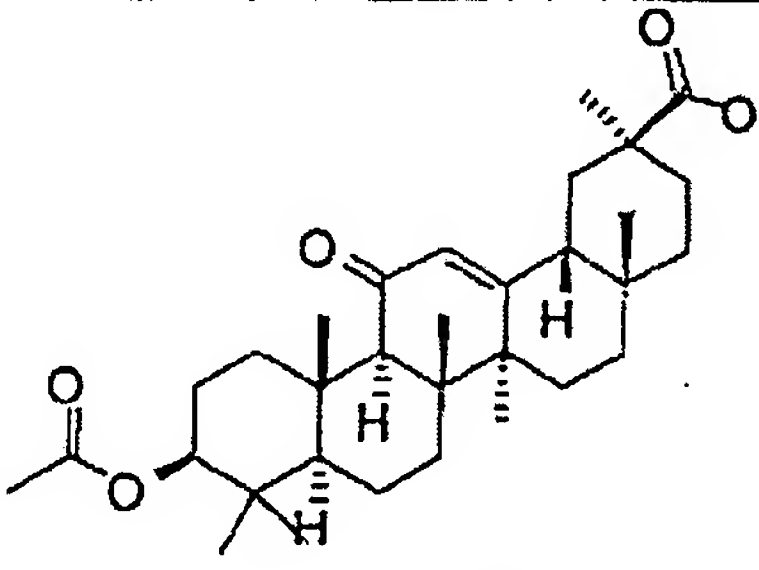
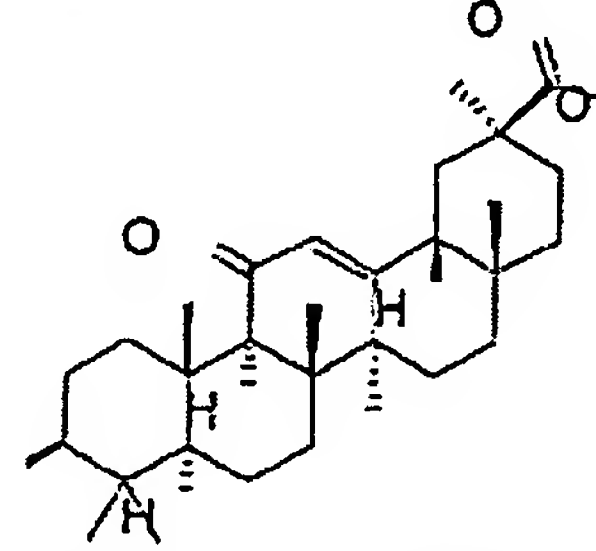


Formula 21

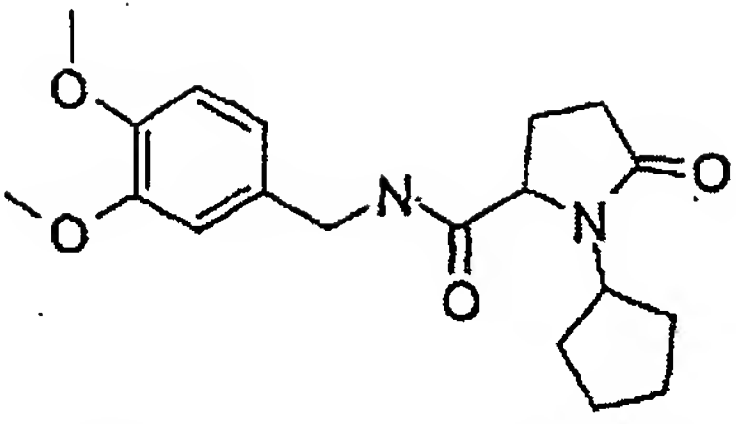
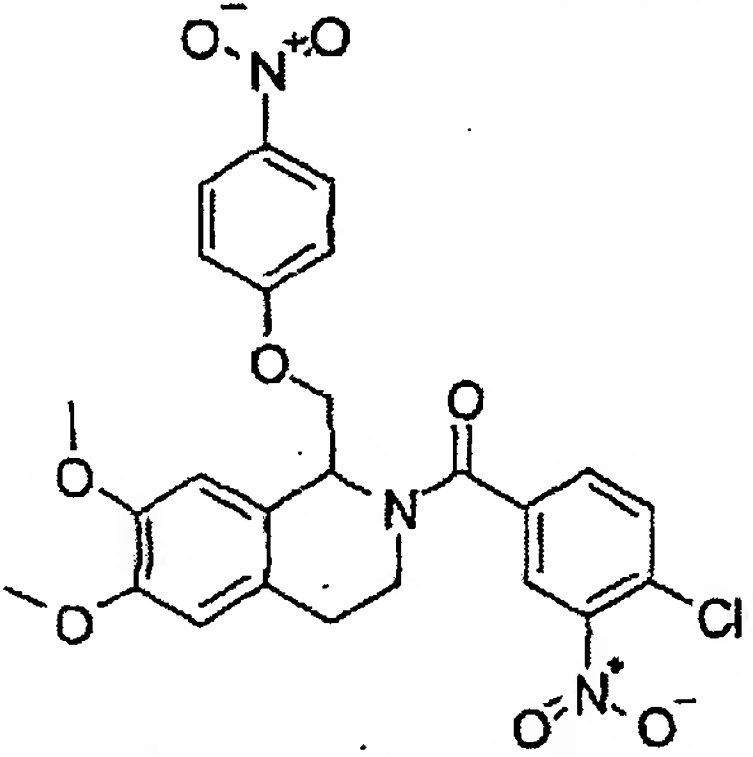
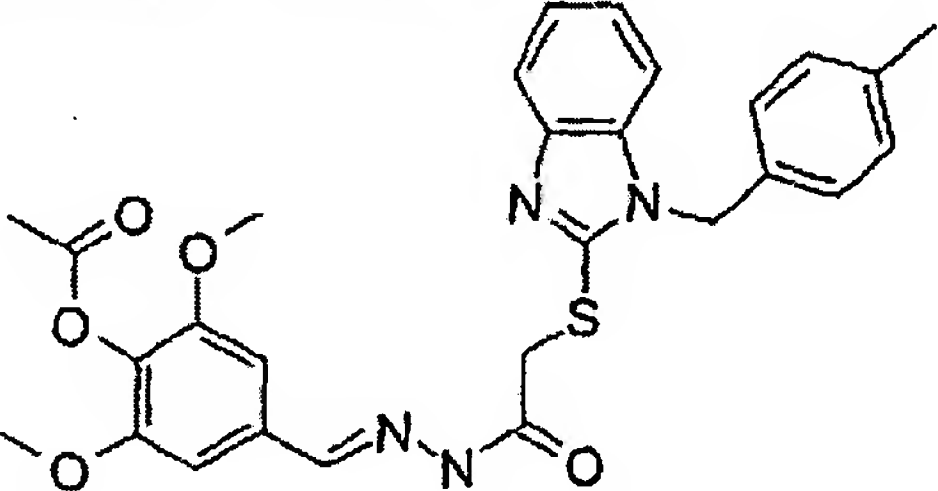


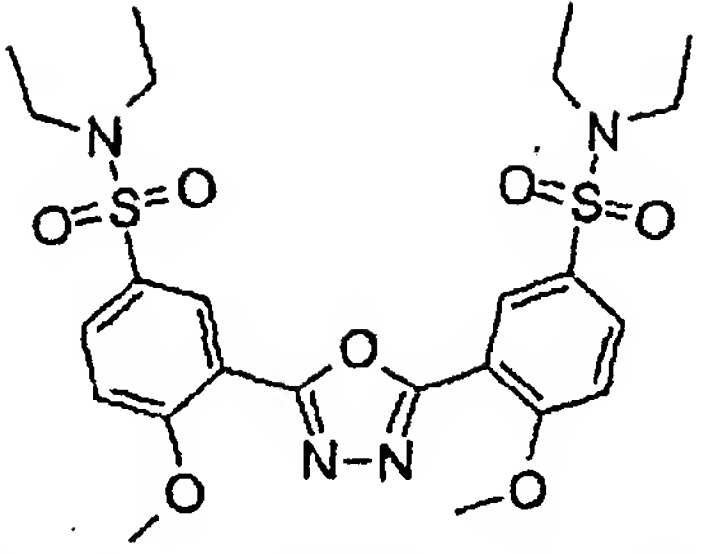
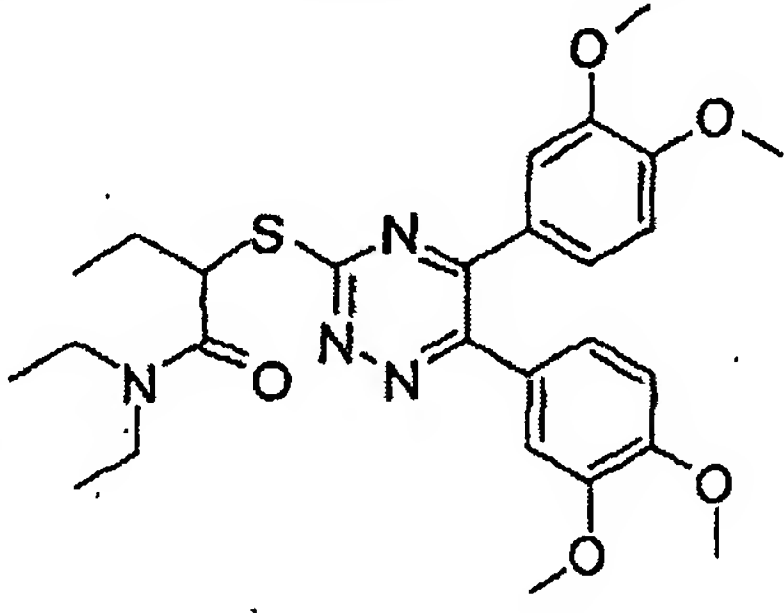
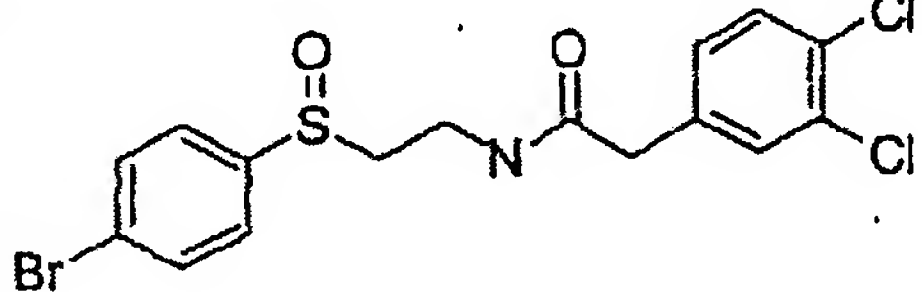
Formula 22



Formula 23	
Formula 24	
Formula 25	



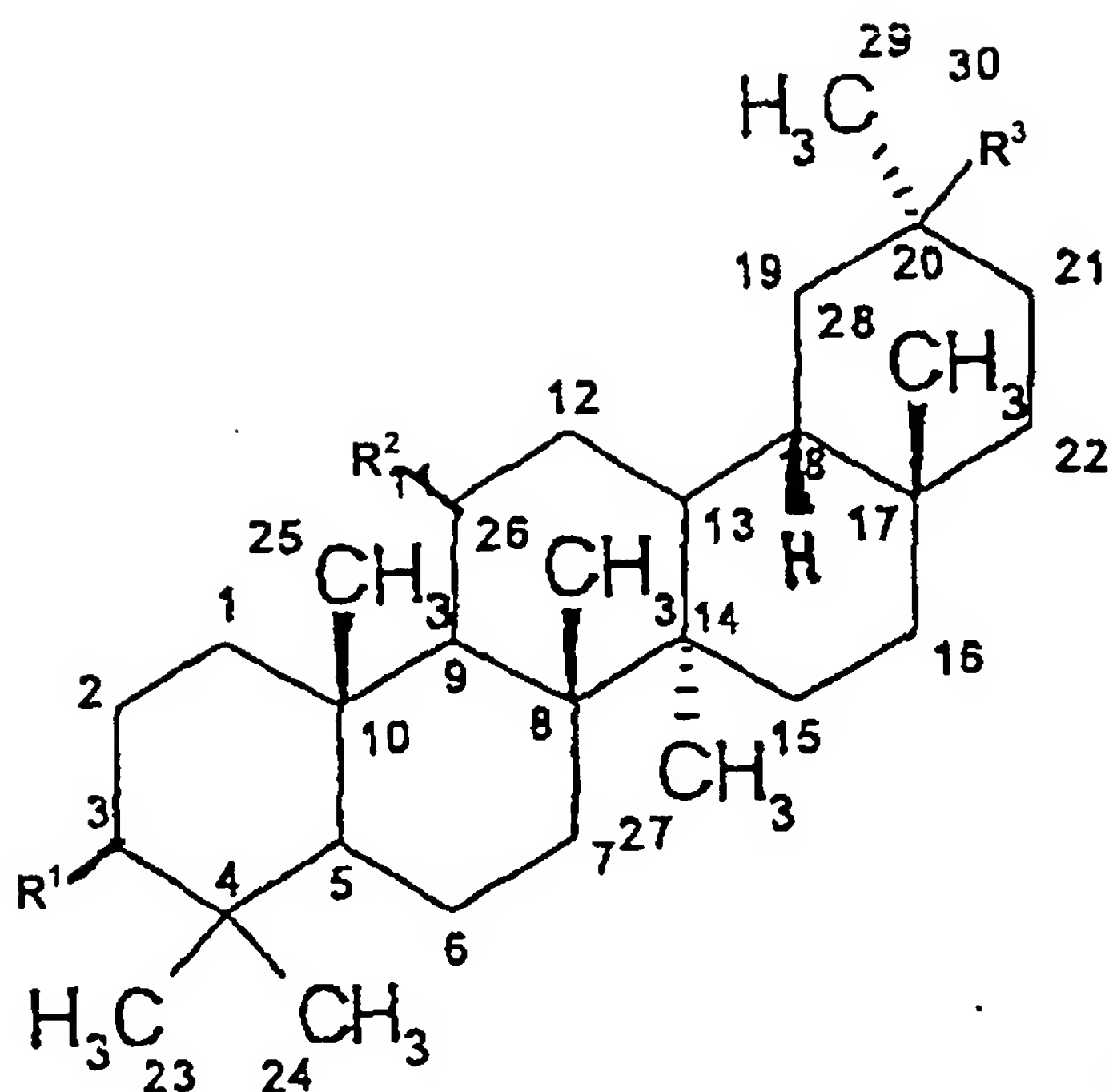
Formula 26	
Formula 27	
Formula 28	

Formula 29	
Formula 30	
Formula 31	

18-β-glycyrrhetic

acid, glycyrrhetic acid, a derivative of glycyrrhetic acid, 11-α-OH-progesterone, and 11-β-OH-progesterone.

34. (Currently Amended) The use according to any claim 28 pharmaceutical composition of claim 45, wherein the 11-β-HSD-type 1 and/or type 2 inhibitor has the structure of formula I:



formula I

wherein  $[[R']]$   $R^1$  is

a hydrogen,

a linear or branched  $C_1-C_{10}$  alkyl group,

a linear or branched  $C_1-C_{10}$  alkenyl group,

a linear or branched  $C_1-C_{10}$  alkynyl group,

an ester, amino, halo, hydroxy, carbonyl, carboxy, carboxyphenoxy,  $C_1-C_4$

alkoxy,  $C_1-C_4$  alkoxy carbonyl,  $C_1-C_4$  alkyl amino, di- $(C_1-C_4$

alkyl)amino, cyano, carboxy amide, carboxy- $(C_1-C_4$ -alkyl)amino, carboxy-di $(C_1-C_4$

$C_1-C_4$ -alkyl)sulfo, sulfido  $(C_1-C_4$ -alkyl), sulfoxido  $(C_1-C_4$ -alkyl), sulfono

$(C_1-C_4$ -aminoalkyl) or thio group, a saturated or unsaturated, aromatic or

heteroaromatic mono- or polycyclic group,

wherein said cyclic group may be mono- or polysubstituted with an ester, amino, halo, hydroxy,  $\text{C}_1\text{-C}_4$  alkoxy, carboxy, carbonyl,  $\text{C}_1\text{-C}_4$  alkoxy carbonyl, carboxyphenoxy,  $\text{C}_1\text{-C}_4$  alkyl amino, di-( $\text{C}_1\text{-C}_4$  alkyl)amino, cyano, carboxy amide, carboxy-( $\text{C}_1\text{-C}_4$  alkyl)amino, carboxy-di( $\text{C}_1\text{-C}_4$  alkyl)amino, sulfo, sulfido ( $\text{C}_1\text{-C}_4$  alkyl), sulfoxido ( $\text{C}_1\text{-C}_4$  alkyl), sulfono ( $\text{C}_1\text{-C}_4$  alkyl), thio,  $\text{C}_1\text{-C}_4$  alkyl,  $\text{C}_2\text{-C}_4$  alkenyl or  $\text{C}_2\text{-C}_4$  alkynyl group;

[[R2]]  $\text{R}^2$  is

a hydrogen,  $\text{C}_1\text{-C}_4$  alkyl, carbonyl, ester, amino, halo, carbonyl, hydroxy, carboxy,

carboxyphenoxy,  $\text{C}_1\text{-C}_4$  alkoxy,  $\text{C}_1\text{-C}_4$  alkoxy carbonyl,  $\text{C}_1\text{-C}_4$  alkyl amino, di-( $\text{C}_1\text{-C}_4$  alkyl)amino, cyano, carboxy amide, carboxy-( $\text{C}_1\text{-C}_4$  alkyl)

amino, carboxy-di( $\text{C}_1\text{-C}_4$  alkyl), sulfo, sulfido ( $\text{C}_1\text{-C}_4$  alkyl), sulfoxido ( $\text{C}_1\text{-C}_4$  alkyl), sulfono ( $\text{C}_1\text{-C}_4$  alkyl) or thio group;

[[R3]]  $\text{R}^3$  is

a hydrogen,

a linear or branched  $\text{C}_1\text{-C}_{10}$  alkyl group,

a linear or branched  $\text{C}_1\text{-C}_{10}$  alkenyl group,

a linear or branched  $\text{C}_1\text{-C}_{10}$  alkynyl group,

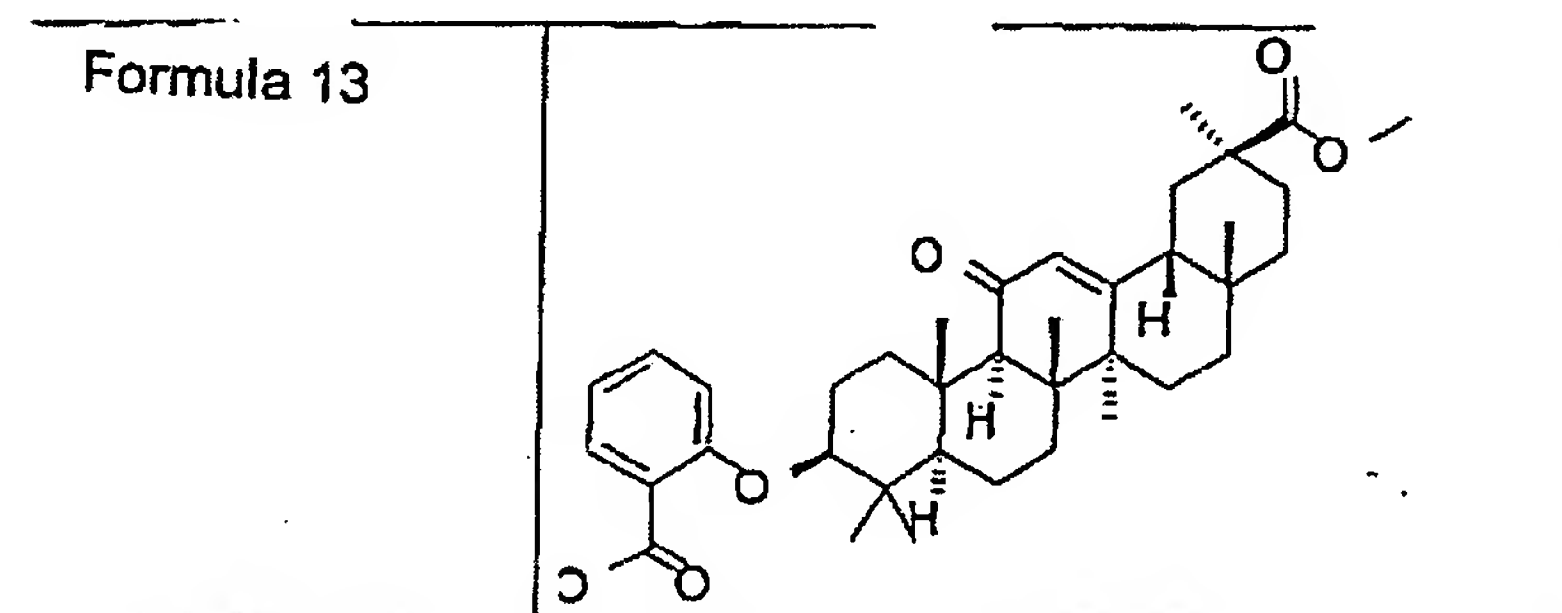
an ester, amino, halo, hydroxy, carbonyl, carboxy, carboxyphenoxy,  $\text{C}_1\text{-C}_4$  alkoxy,  $\text{C}_1\text{-C}_4$  alkoxy carbonyl,  $\text{C}_1\text{-C}_4$  alkyl amino, di-( $\text{C}_1\text{-C}_4$  alkyl)amino, cyano, carboxy amide, carboxy-( $\text{C}_1\text{-C}_4$  alkyl)amino, carboxy-di( $\text{C}_1\text{-C}_4$  alkyl)amino,

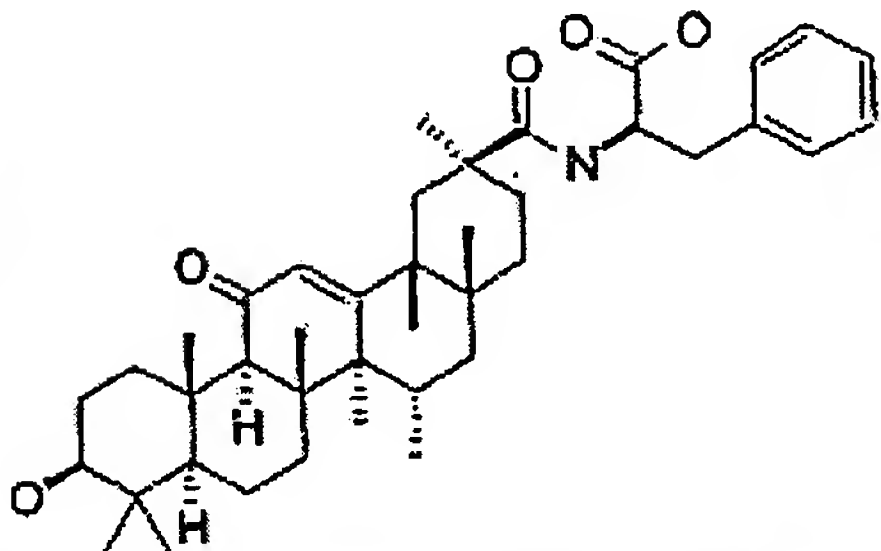
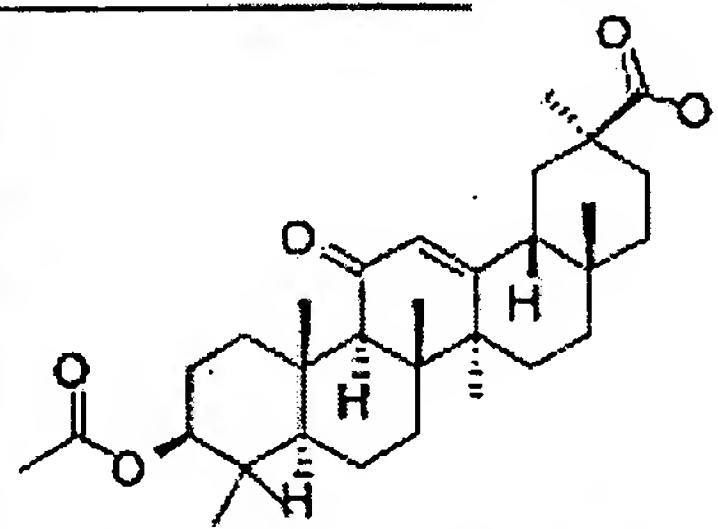
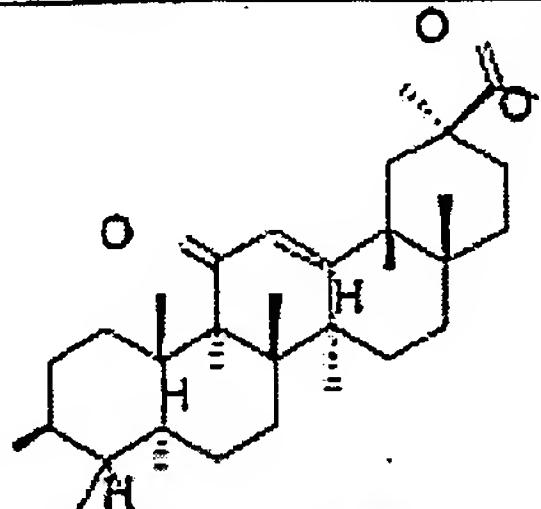
alkyl)sulfo, sulfido (~~C1-Ca~~ C<sub>1</sub>-C<sub>4</sub>-alkyl), sulfoxido (~~C1-Ca~~ C<sub>1</sub>-C<sub>4</sub>-alkyl), sulfono (~~C1-C4~~ C<sub>1</sub>-C<sub>4</sub>-aminoalkyl) or thio group, a saturated or unsaturated, aromatic or heteroaromatic mono- or polycyclic group;

wherein the chemical bond from carbon 13 to 14 is saturated or unsaturated;

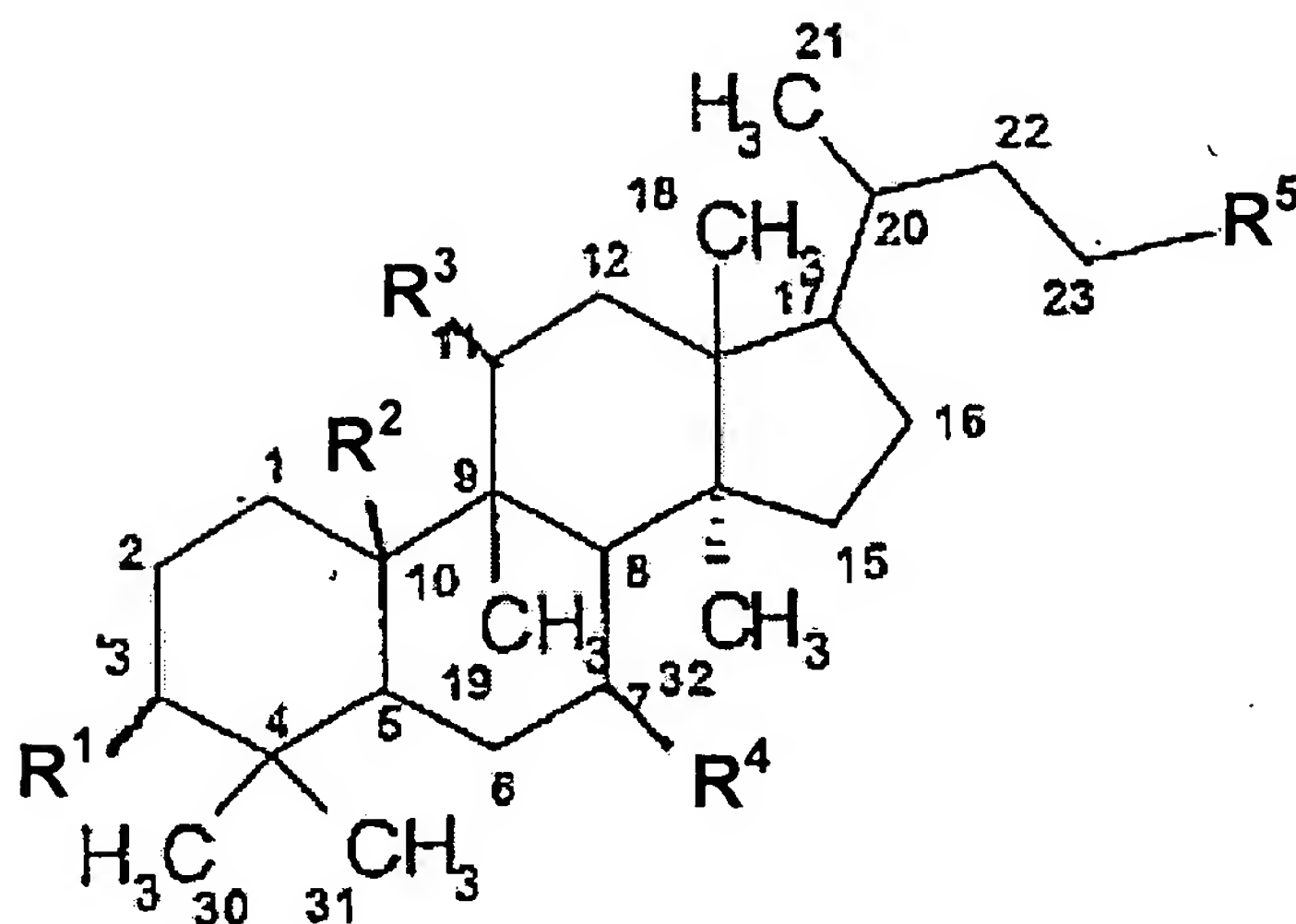
or a salt or derivative thereof in the form of an individual enantiomer, diastereomer or a mixture thereof.

35. (Currently Amended) The ~~use according to~~ pharmaceutical composition of claim [[28]] 45, wherein the 11- $\beta$ -HSD-type 1 and/or type 2 inhibitor is selected from the group consisting of the following formulas:



Formula 14	
Formula 24	
Formula 25	

36. (Currently Amended) The use according to claim 28 pharmaceutical composition of claim 45, wherein the 11- $\beta$ -HSD-type 1 and/or type 2 inhibitor has the structure of formula II:



formula II

wherein  $[[R']]$   $R^1$  is

a hydrogen,

a linear or branched  $C_1-C_{10}$  alkyl group,

a linear or branched  $C_1-C_{10}$  alkenyl group,

a linear or branched  $C_1-C_{10}$  alkynyl group,

an ester, amino, halo, hydroxy, carbonyl, carboxy, carboxyphenoxy,  $C_1-C_4$

alkoxy,  $C_1-C_4$  alkoxy carbonyl,  $C_1-C_4$  alkyl amino, di- $(C_1-C_4$

alkyl)amino, cyano, carboxy amide, carboxy- $(C_1-C_4$ -alkyl)amino, carboxy-di $(C_1-$

$C_4$ -alkyl)sulfo, sulfido  $(C_1-C_4$ -alkyl), sulfoxido  $(C_1-C_4$ -alkyl), sulfono

$(C_1-C_4$ -aminoalkyl), thio group, a saturated or unsaturated, aromatic or

heteroaromatic mono- or polycyclic group,

wherein said cyclic group may be mono- or polysubstituted with an ester, amino, halo,

hydroxy,  $C_1-C_4$  alkoxy, carbonyl, carboxy,  $C_1-C_4$  alkoxy carbonyl,

carboxyphenoxy,  $C_1-C_4$  alkyl amino, di- $(C_1-C_4$ -alkyl)amino, cyano,

carboxy amide, carboxy- $(C_1-C_4$ -alkyl)amino, carboxy-di $(C_1-C_4-$

alkyl)amino, sulfo, sulfido (~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl), sulfoxido (~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl), sulfono (~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl), thio, ~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub> alkyl, ~~G2-G4~~ C<sub>2</sub>-C<sub>4</sub> alkenyl or ~~G2-G4~~ C<sub>2</sub>-C<sub>4</sub> alkynyl group;

[[R2]] R<sup>2</sup> is a hydrogen or ~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub> alkyl,

[[R3]] R<sup>3</sup> and [[R4]] R<sup>4</sup> are each selected from

a hydrogen

a linear or branched ~~C, C, o~~ C<sub>1</sub>-C<sub>10</sub> alkyl group,

a linear or branched ~~C, C, o~~ C<sub>1</sub>-C<sub>10</sub> alkenyl group,

a linear or branched ~~C, C, o~~ C<sub>1</sub>-C<sub>10</sub> alkynyl group,

an ester, amino, halo, hydroxy, carbonyl, carboxy, carboxyphenoxy, ~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>

alkoxy, ~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub> alkoxy carbonyl, ~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub> alkyl amino, di-(~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-

alkyl)amino, cyano, carboxy amide, carboxy-(~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, carboxy-di(~~G1-~~

~~G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl)sulfo, sulfido (~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl), sulfoxido (~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl), sulfono

(~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-aminoalkyl), thio group, a saturated or unsaturated, aromatic or

heteroaromatic mono- or polycyclic group;

R5 is a hydrogen, ~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub> alky, carbonyl, ester, amino, halo, hydroxy, carboxy,

carboxyphenoxy, ~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub> alkoxy, ~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub> alkoxy carbonyl, ~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub> alkyl

amino, di-(~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, cyano, carboxy amide, carboxy-(~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-

alkyl) amino, carboxy-di(~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl), sulfo, sulfido (~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl), sulfoxido

(~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl), sulfono (~~G1-G4~~ C<sub>1</sub>-C<sub>4</sub>-alkyl) or thio group,

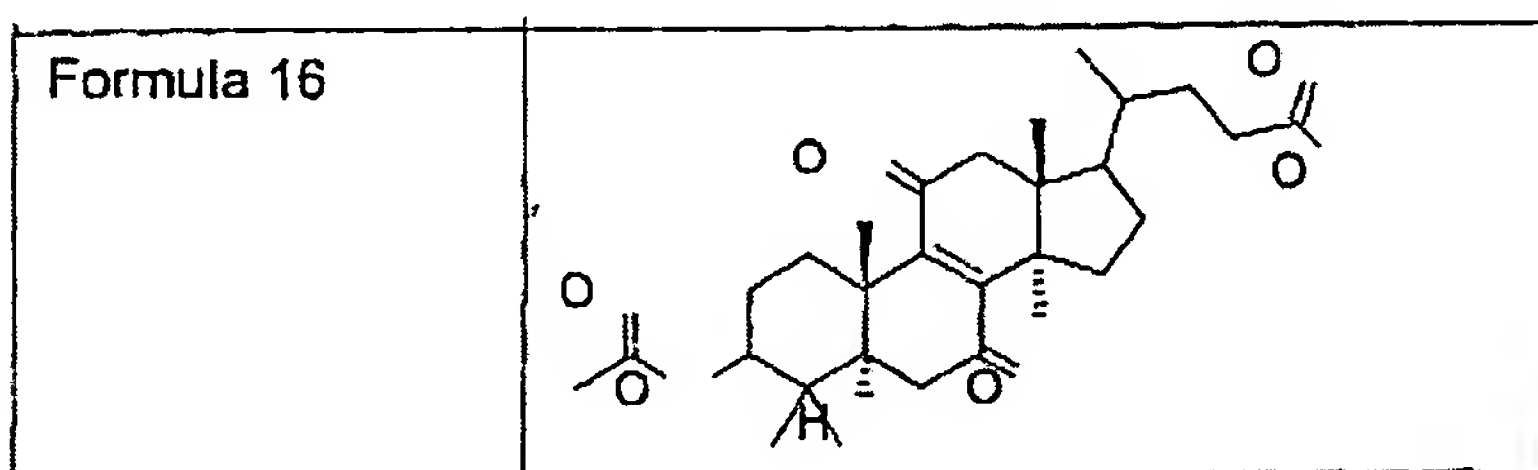
wherein the chemical bond from carbon 8 to 9 is saturated or unsaturated; wherein the

chemical bond from carbon 13 to 14 is saturated or unsaturated;

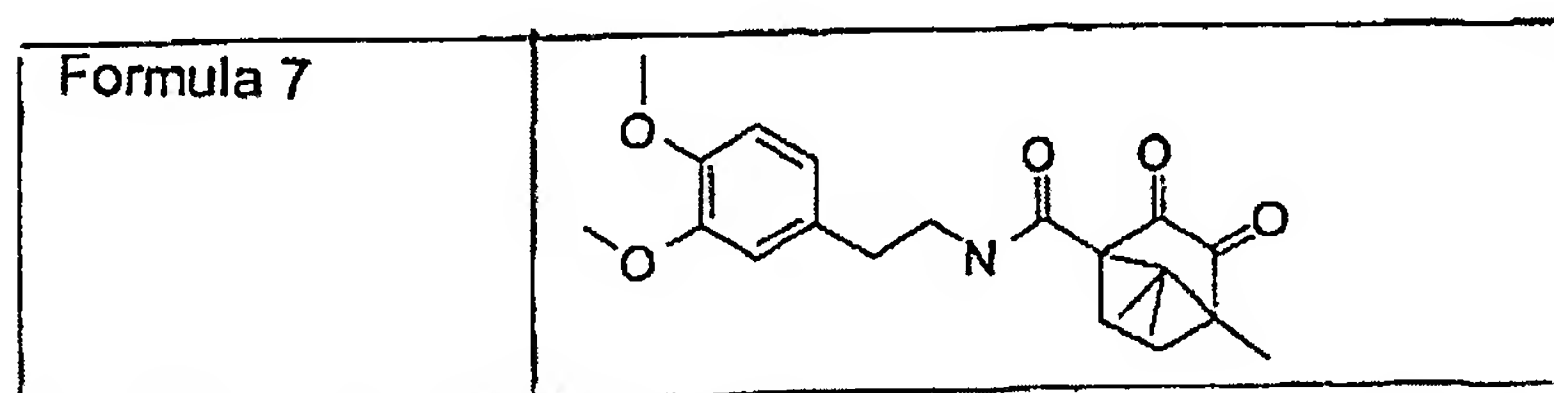


or a salt or derivative thereof in the form of an individual enantiomer, diastereomer or a mixture thereof.

37. (Currently Amended) The ~~use according to claim 28~~ pharmaceutical composition of claim 45, wherein the 11- $\beta$ -HSD-type 1 and/or type 2 inhibitor is:



38. (Currently Amended) The ~~use according to claim 33~~ pharmaceutical composition of claim 45, wherein the 11- $\beta$ -HSD-type 1 and/or type 2 inhibitor is:



39. (Currently Amended) The ~~[[use]]~~ method of claim 28, wherein the pharmaceutical ~~[[agent]]~~ composition comprises at least one 11- $\beta$ -HSD-type 1 and/or type 2 inhibitor in combination with at least one active ingredient being effective in the prevention and/or treatment of inflammation-induced and/or immune-mediated loss of bone and/or cartilage.

40. (Currently Amended) The ~~use according to~~ method of claim 28, wherein the pharmaceutical ~~[[agent]]~~ composition is administered in a dose of 5 to 100 mg/kg body weight per day.

41. (Currently Amended) The ~~[[use]]~~ method of claim 28, wherein the pharmaceutical agent is administered orally, sublingually, intravenously, intramuscularly, intraarticularly, intraarterially, intramedullarily, intrathecally, intraventricularly, intraocularly, intracerebrally, intracranially, respiratorally, intratracheally, nasopharyngeally, transdermally, intradermally, subcutaneously, intraperitoneally, intranasally, enterally, topically, via rectal means, via infusion and/or via implant.

42. (Currently Amended) The ~~use according to~~ method of claim 41, wherein the pharmaceutical agent is administered orally.

43. (Currently Amended) The ~~use according to~~ pharmaceutical composition of claim ~~[[28]]~~ 33, wherein the ~~11- $\beta$ -HSD-type 1 and/or type 2 inhibitor is glycyrrhetinic acid or a derivative thereof such as~~ derivative of glycyrrhetinic acid is selected from glycyrrhizin, glycyrrhizinic acid or carbenoxolone.

44. (Currently Amended) The ~~use according to~~ pharmaceutical composition of claim ~~[[28]]~~ 33, wherein the ~~11- $\beta$ -HSD-type~~ 11- $\beta$ -HSD-type 1 and/or type 2 inhibitor is 11- $\alpha$ -OH-progesterone or ~~11- $\beta$ -OH-progesterone~~ 11- $\beta$ -OH-progesterone.

45. (Currently Amended) ~~Pharmaceutical~~ A pharmaceutical composition comprising, as an active ingredient, an 11- $\beta$ -HSD-type 1 and/or type 2 inhibitor or a salt thereof, ~~wherein said 11- $\beta$ -HSD-type 1 and/or type 2 inhibitor is selected from the group consisting of the following formulas 16, 7, 13, 14, 25 and 24.~~

46. (New) The method of claim 31, wherein said arthritis is juvenile chronic arthritis, adjuvant arthritis, osteoarthritis, and/or rheumatoid arthritis.